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Rivers of Change: Essays on Early Agriculture in Eastern North America

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Rivers of Change: Essays on Early Agriculture in Eastern North America, by Bruce D. Smith. Washington, DC: Smithsonian Institution Press, 1992. xiv, 302 pp. Figures, photographs, maps, graphs, tables, references, index. \$49.95 cloth.

REVIEWED BY ROBERT A. CLOUSE, MINNESOTA HISTORICAL SOCIETY

Bruce Smith, a principal researcher in the field of pre-European contact Native American subsistence, has brought together a collection of twelve of his essays that focus on the emergence of a pre-maize agricultural complex some three to four thousand years ago in eastern North America. Archeologists have realized that the study of this geographic region may be able to contribute significantly to our understanding of agriculture's role in cultural evolution. Smith's focus in this volume is the Native American "transition from a hunting and gathering way of life to a reliance on food production" (3).

The book presents archeological evidence from numerous sites supporting the development of an agricultural subsistence complex based on the cultivation of four indigenous plants. The role of these cultigens is presented in a context of agriculture's origins, content, and evolution. This subsistence complex is grounded in a well-developed floodplain weed theory of plant domestication. Particularly important is the discussion of the relationship between the floodplain niche and open habitat model in relation to other hypothetical constructs relating to agricultural origins. The historical perspective allows readers to see the role of previous researchers in the development of current thinking.

Smith has divided the volume into four sections. Between the introduction and conclusion are sections relating to the theoretical underpinnings and the basic data upon which the synthetic statements are based. Theoretical discussions are followed by a discussion of the development of eastern North America as an independent area of domestication. The core of the volume documents the use of four indigenous plants—gourd/squash (*Cucurbita pepo*), marshelder or sumpweed (*Iva annua*), goosefoot (*Chenopodium berlandieri*), and sunflower (*Helianthus annuus*)—in pre-maize farming economies in the present midwestern and southeastern United States. Using data from a number of archeological sites, Smith makes a strong case for domestication of floodplain weeds that were pre-adapted for domestication due to economic potential and colonizing abilities. These river valley weeds maintained the potential for high yield and appear to have been part of plant communities predisposed to the occupation of anthropogenic open spaces.

Smith develops his arguments based on more than strictly archeological data. His use of electron microscopy and molecular biology provides additional support for his conclusions. Data presented on ecological studies, nutritional values, and cultural perspectives through paleoethnobotanical research about the nature of prehistoric farming adds credibility to the conclusions drawn. The use of radiocarbon dating provides strong evidence for the pre-maize development of domesticates, and osteological analysis shows the contribution of domesticates to ancient diets.

This collection of essays in one volume provides a valuable reference for anyone interested in agricultural origins and the role that this subsistence change played in human culture. As the product of a single author, there is continuity but also some redundancy. A combined bibliography would have made the volume more valuable as a reference book. Smith's work is impressive in dispelling the myth of the existence of agriculture based only on the traditional imported triad of "corn, beans, and squash." His presentation of detailed evidence, carefully braided together, is symbolic of the rivers forming the floodplain environments in which this early domestication took place. Similarly, the volume documents the currents of change that brought about a reliance on cultivated plants. Smith's discussion of the transition from hunting and gathering food production sheds valuable light on one of the most important ecological and cultural changes in the history of humankind.

The Middle Ground: Indians, Empires, and Republics in the Great Lakes Region, 1650-1815, by Richard White. New York: Cambridge University Press, 1991. xvi, 544 pp. Illustrations, maps, tables, notes, index. \$69.50 cloth, \$19.95 paper.

REVIEWED BY RAYMOND E. HAUSER, WAUBONSEE COMMUNITY COLLEGE

This remarkable publication focuses on Indian-white relations in the Great Lakes area, including the upper Mississippi and Ohio valleys, from the Iroquois incursions of the mid-seventeenth century through the death of Tecumseh during the War of 1812. Richard White examines cultural change on "the middle ground" between Indian and white "cultures [and] peoples, and in between empires and the non-state world of villages" (x). This middle ground accommodation, this blend of Indian and white practices, was not unique to the *pays d'en haut* (upper country), but White argues persuasively that it certainly

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